

## NOTES ON THE BIOLOGY AND DISTRIBUTION OF *HYLOTRUPES BAJULUS* (L) (COLEOPTERA: CERAMBYCIDAE) IN VIRGINIA<sup>1</sup>

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**ABSTRACT:** The old house borer, *Hylotrupes bajulus* (L.), was found equally distributed in the three geographic regions of Virginia. A survey of pest control operators and homeowners showed a majority of infestations were in buildings less than 7 years old. Old house borer adults and larvae were collected in a sawmill, associated with processed and unprocessed wood.

The old house borer (OHB), *Hylotrupes bajulus* (L.), is an important structural insect pest in eastern and southern United States (St. George et al. 1957). It was introduced into the U.S. over 200 years ago and now occurs in states along the Atlantic seaboard and Gulf Coast. It is ranked second to subterranean termites in its damage to buildings and structures (St. George et al. 1957). In the U.S., the OHB is a pest of man-made structures with no known evidence of naturally occurring populations in unprocessed wood (Snyder 1955).

Larvae of this cerambycid beetle tunnel in the sapwood portion of seasoned softwoods used in the construction of houses and other wooden structures. Larvae are known to feed in wood for several years. Larval feeding often results in loss of structural integrity of infested wood, and financial losses incurred in the treatment and replacement of damaged wood.

The OHB is native to the Atlas Mountains of northern Africa and is found feeding, under natural conditions, in pine stumps and logs. Becker (1979) noted that the OHB has been introduced onto all major continents, and gave its distribution in the U.S., including 38 counties in Virginia. On most continents the OHB is considered an established pest, capable of surviving under natural conditions in unprocessed wood, as well as in seasoned softwoods.

The purpose of this study was to record the distribution of the OHB in Virginia. Midway in the distribution of the OHB along the east coast, and with 3 distinct geographic regions, (coastal, piedmont, mountain) Virginia offers representative temperatures for the entire Atlantic seaboard.

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### Materials and Methods

Distribution records were compiled from 1977 to 1982 from specimens located in the U.S. National Museum of Natural History, VPI&SU insect collection, and VA Cooperative Extension records. Professional pest control operators and homeowners in Virginia were surveyed (1979-1981) to determine occurrence and location (within structure) of OHB infestations. A 10-point questionnaire was sent to pest control operators and homeowners submitting specimens of OHB to VPU&SU for identification. Two lumber yards and one sawmill in Montgomery Co., VA were sampled for OHB adults and larvae. Sampling involved a 2 hr. walk 3 times weekly around the premises over a 3 week period (June 17 to July 5, 1981). Adult OHB were captured with sweep nets. Wood containing OHB larvae was returned to the laboratory and the larvae removed.

### Results and Discussion

Distribution records and survey data show the OHB is equally distributed throughout Virginia's 3 geographic regions (Fig. 1). The OHB was reported to occur in 86 of Virginia's 99 counties.

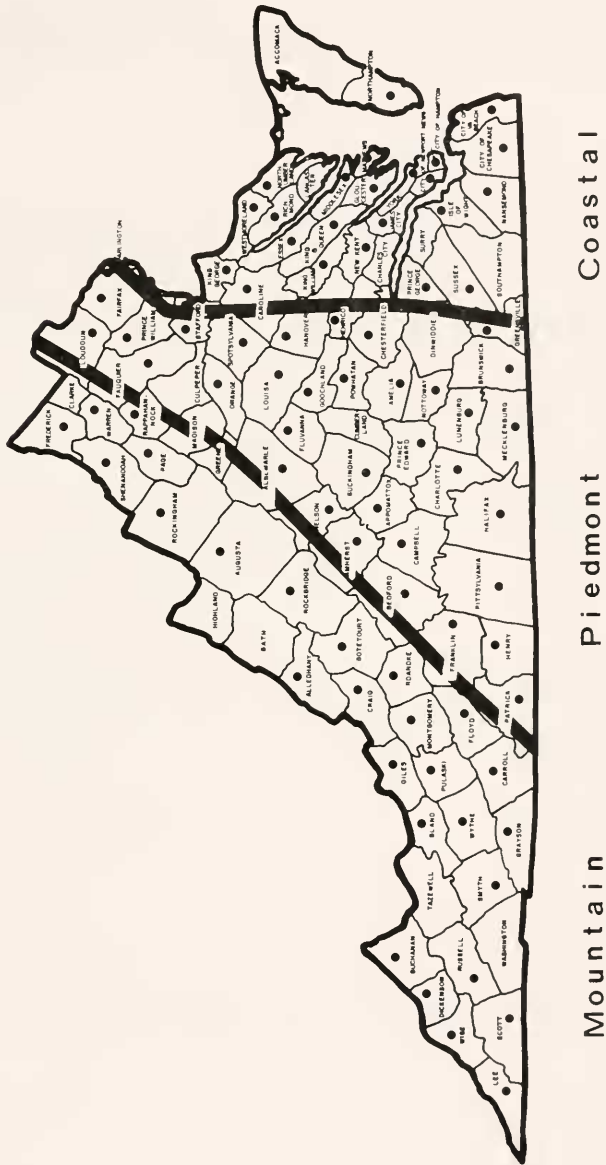
Five OHB adults (3 males, 2 females) and 3 medium-to large-sized (100-150 mg) larvae were collected at the sawmill. Adults were found, in mid-day, flying about the lumber yard. Larvae were found in pine lumber stacked around the periphery of the mill. The adult females were returned to the laboratory where they laid viable eggs. The larvae were transferred to fortified wood blocks (southern yellow pine) in the VPI&SU OHB colony.

These findings strongly suggest that the OHB is surviving and reproducing in areas where wood is processed and stored. Wood for local use as well as rough-cut pine logs for modern log homes are processed at the sawmill where the OHB specimens were collected. Moore (1978) reported that the majority of OHB infestations were found in structures built with infested wood. Data from the pest control operator and homeowner survey further supported this premise.

The survey data showed that of the homeowners and pest control operators reporting infestations, 81.3% were in houses  $\leq 7$  years old, with 56.3% in houses  $\leq 4$  years old. This data indicates that OHB larvae were probably in the wood when the houses were constructed.

Cannon (1979) reported that first-instar larvae were able to live and feed for 6 months outdoors in pine blocks placed in the geographic regions of Virginia. The data indicated that the wood moisture content in the test blocks and not temperature was the limiting factor in larval survival outdoors. The data presented here confirms that OHB can survive outside structures. The presence of OHB adults and larvae in a lumber yard helps to explain active infestations in buildings less than 10 years old.

Fig. 1. Distribution of the Old House Borer, Hylotrupes bajulus in Va.'s Three Geographical Regions.



• Represents recorded infestation.

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## BOOKS RECEIVED AND BRIEFLY NOTED

**SYSTEMATICS OF BEES OF THE GENUS *EUFRIESEA* (HYMENOPTERA: APIDAE).** Lynn S. Kimsey. 1982. Univ. of Calif. Press. 125 pp. \$12.50. pbk.

The purpose of this paper is to provide a general overview of the Euglossini, with a key to the genera, and to present a revision of the genus *Eufriesea*, including taxonomic and biological information and a key to the species.

**BIOLOGY OF SPIDERS.** Rainer F. Foelix. 1982. Harvard Univ. Press. 306 pp. \$30.00.

Comprehensive treatment of spider biology, emphasizing their physiology, sensory physiology and behavior. Anatomy, web spinning, locomotion, predation, reproduction, development and ecology are all covered. Translated and updated from the original (1979) German edition.

**SOCIAL INSECTS. VOLS. III & IV.** H.R. Hermann, ed. 1982. Academic Press. Vol. III 459 pp. \$58.00. Vol. IV 385 pp. \$52.00

Vol. 3 treats the eusocial insects, the Apidae, with chapters on the bumble bees, the honey bees and the stingless bees. Vol. 4 completes the series with chapters on wasps and ants.